

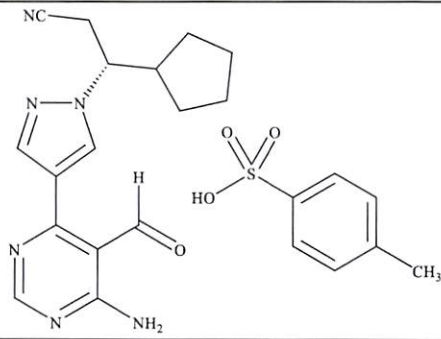
## Certificate of Analysis

Certificate No.: **20260528002**



Date: May 28, 2026

Retest date: May 20, 2029

<b>Compound Name:</b> (R)-Ruxolitinib Impurity 2 <i>p</i> -Toluenesulfonate	
<b>Synonyms:</b>	(R)-3-(4-(6-amino-5-formylpyrimidin-4-yl)-1 <i>H</i> -pyrazol-1-yl)-3-cyclopentylpropanenitrile, 4-methylbenzenesulfonic acid (1:1)
<b>TLC Catalogue Number:</b>	R-093103
<b>CAS Number:</b>	N/A
<b>Alternate CAS Number:</b>	2606144-45-8 (free base)
<b>Molecular Weight:</b>	310.36 172.20
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>18</sub> N <sub>6</sub> O. C <sub>7</sub> H <sub>8</sub> O <sub>3</sub> S
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	7386-052A3
<b>Storage Conditions:</b>	Store at 2-8 °C
<b>Solubility:</b>	Acetonitrile, DMSO, Water



Test Description	Specifications	Results
<b>Visual Description</b>	Yellow solid	<b>Conforms</b>
<b>Identification</b>		
IR	Conforms to structure	<b>Conforms</b>
MS	Conforms to structure	<b>Conforms</b>
<sup>1</sup> H NMR	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 95.0%	<b>98.7%</b>
<b>Impurity (HPLC)</b>	RT 16.51, 0.17%; RT 18.77, 1.08%	
<b>Purity (Chiral HPLC)</b>	Not less than 98.0%	<b>100.0%</b>
<b>Optical Rotation</b>	N/A	[α] <sub>D</sub> <sup>25.0</sup> (c=0.49, DMSO): <b>-11.1°</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (qNMR)</b>	Not less than 90.0%	<b>94.0%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		05/28/2026
Approved by:	Quality Assurance		05/28/2026

**Attachments:** Peak Attribution Table, Assay Calculation, HPLC, IR, MS and NMR spectra.